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Brevets d'invention
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Mulhouse, 19th July 2005

International patent application PCT/IB03/01523 filed on 14th April 2003

In the name of : **G. HOLDINGS LTD**

Dear Sirs :

This is pursuant to the written opinion dated July 1, 2005.

Please find enclosed a set of amended claims 1-14 on amended pages 15-18, to replace claims 1-15 of pages 15-19 on file. Please also find enclosed an annotated version of the claims where all amendments are apparent, for the Examiner's perusal.

In claim 1, the Examiner objects to the fact that the data transceiver and cue receiver are claimed as two separate entities. To overcome this objection, the cue receiver has been eliminated from amended claim 1, and the data transceiver is now said to assume the cue receiver's functions, i.e. receiving a selectively emitted activation cue from a source external to said portable electronic device.

Similarly, in amended independent claim 10 (former claim 11), the cue is now said to be received by the second data transceiver rather than by a cue receiver.

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In amended claim 3, which depends upon claim 1, the data transceiver is now said to comprise a data transmitter, a data receiver distinct from said data transmitter, and a cue receiver distinct from said data receiver. This is consistent with the above-mentioned amendment brought to claim 1.

Former claim 4 has been deleted, and the subsequent claims have been consequently renumbered.

The Examiner believes it is unclear whether there is a difference, in claim 1, between the "triggering" and the "selective triggering" of the control device. In amended claims 1, 10 and 11, the control device is now consistently said to be selectively triggered.

The applicant respectfully disagrees with the fact that "series of instructions" cannot act as the switching element in former claim 9 (claim 8 of the enclosed set of claims). The Tormont Webster's Illustrated Encyclopaedic Dictionary (1990) defines "element" as follows: *"A fundamental, essential, or irreducible constituent of a composite entity."* The applicant believes that *"a series of instructions programmed onto a microchip"* emulating the functions of a switching element, are indeed a constituent of the composite entity formed by the claimed portable electronic device, and can rightfully be considered to be a switching element. This is supported by the description, where it is said that *"switching element 44b can be a physical structure, a virtual program, or both."* (page 9, line 7). Applicant thus believes that the meaning of amended claim 8 is clear in light of the description, contrarily to the Examiner's contention.

The expression "decisional logical circuit" in amended claim 9 (former claim 10) has been replaced by "logical circuit". Since it is common knowledge in the art that a "logical circuit" means an electronic circuit comprising a number of logic gates and performing logical operations on data, having one or more binary inputs and a single binary output, it is believed that the expression "logical circuit" should be clear in this context.

This concludes the amendments brought to the claims.

Furthermore, the applicant respectfully disagrees with the Examiner which is of the opinion that the present invention as claimed in amended claims 1, 2, 7 and 10-12 cannot be considered novel or be considered to involve an inventive step in view of the German patent application DE 101 46 804 (document D1).

Document D1 discloses in figures 2-3 a switching logic 26 which is controlled by a control signal 25 responsive to a terminal supply voltage 22 which originates from a chip card outboard of the chip card itself. Switching logic 26 will establish alternate data communication paths depending on whether a terminal supply voltage 22 activates control signal 25 or not. If a terminal supply voltage activates control signal 25, switching logic 26 will be set in a write mode (figure 2) establishing data communication between a non-volatile memory 16 and a write mode control circuit 19. In this write mode of switching logic 26, data is exchanged between the chip card memory 16 and the outboard chip card terminal. If no terminal supply voltage 22 activates control signal 25, switching logic 26 will remain in a default read mode (figure 3) establishing data communication between memory 16 and a read mode control circuit 20. In this read mode of switching logic 26, data from memory 16 is displayed on the chip card display screen.2 (figure 1) through read mode control circuit 10 and a driver circuit 21 controlling data display on screen 2.

Consequently, data can flow in/out of the memory 16 and from/towards the write mode control circuit 19, or out of the memory 16 towards the read mode control circuit 20 depending on whether or not a chip card terminal supply voltage 22 is supplied to the chip card. The cardholder does not need to intervene for this alternate data conveyance to occur.

In the present invention as claimed, the claimed control device plays an important role in the functioning of the portable electronic device. Indeed, it issues an invariable activation command without which no data can flow in or out of the electronic circuit. After the invariable activation command is issued, a data exchange can occur between the electronic circuit and either the data exchange device to exchange data with an outboard terminal, or the user interface device e.g. to display data on the card display screen, depending on the state of the data conveyance

switching element which is responsive to the detected presence or absence of an outboard cue. Accordingly, the user must necessarily interact with the card in order for data to flow in or out of the electronic circuit; the outboard cue is not sufficient in itself, contrarily to what is taught in document D1. Also, the user interaction with the claimed device will be the same notwithstanding the desired result, i.e. a same control device will be activated to allow either one of the data conveyance paths to be established. Thus, a single control device, e.g. a single button, selectively and positively controls all actions accomplished by the smart card of the present invention in combination with the detected presence or absence of an outboard cue. This is not the case with the invention disclosed in document D1.

One amongst other advantages of the present invention can be illustrated through the following practical example. If the electronic device of the present invention is a contact-less debit card storing electronic money, payment can be sent through a contact-less debit card terminal to the money-receiving party (such as a subway station terminal for example) only if the cardholder triggers the control device. Instead of the card being debited automatically when the card is at a given distance from the contact-less terminal, it falls to the cardholder to trigger the payment by activating the control device. Consequently, unintentional debits from the card occurring when its holder steps too close to the contact-less debit card terminal are avoided.

The invention disclosed in document D1 does not benefit from this important advantage. Indeed, in the case where the chip card of document D1 is a contact-less debit card, if the cardholder was to step too close to the contact-less debit card terminal, the terminal supply voltage 22 could be applied and the switching element 26 hence switched to write mode, and unintentional debit from the card could then occur without the cardholder's consent since no user intervention occurs with the D1 device.

It is to be noted that a momentary activation contact switch 24 is provided on the chip card of document D1. Activation switch 24 can be activated merely for waking the card from its sleep mode, i.e. resume presentation of information on display 2 if switching element 26 is in its read mode state. Thus, the contact switch 24 of the card of document D1 has the effect of only

activating the read mode portion of the card, and has a quite different function than the control device claimed in the present patent application, which must necessarily be triggered to initiate any data flow towards or out of the electronic circuit. Thus, activation switch 24 of document D1 does not interact in combination with the detected presence or absence of an outboard cue as with the present invention.

The present applicant thus believes that his invention as claimed is patentable over the teachings of document D1, i.e. German patent application no. DE 101 46 804. Indeed, all independent claims of the present invention clearly define a portable electronic device or a method of data exchange with such a device, that comprises not only a data transceiver capable of receiving an outboard cue, but also a control device that issues an invariable activation command and that cooperates with the detected presence or absence of an outboard cue to control the switching element. This, as detailed hereinabove, differs significantly from document D1 through the inclusion of positively defined claimed elements.

Please note that we have not yet amended the present application in view of the last four objections formulated by the Examiner in the "Further remarks" section of his written opinion, namely: (1) claims should be drafted in two-part form, (2) claim 1 should depend upon claim 12; (3) D1 should be disclosed in the background section, and (4) reference signs should appear in parentheses in the claims. This is because these objections incite the applicant to bring the claims in line with European practice requirements, which are different than other national requirement such as Canadian and US practice requirements. We believe it would be more appropriate to make the amendments to take these objections into consideration during the entry into the European regional stage of the present PCT application, rather than during the international stage.

Please take our comments and amended claims into consideration to render an International Preliminary Examination Report which confirms the novelty and inventive step of the present invention.


Yours faithfully,

Roland NITHARDT

Encl. : Amended claims 1-14 (3x)

Annotated version of claims (3x)

Acknowledgement of receipt to EPO



CLAIMS

1. A portable electronic device, comprising:

- an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;
- 5 - a control device operatively linked to said electronic circuit, with an invariable activation command being issued when said control device is selectively triggered;
- a user interface device operatively linked to said electronic circuit;
- a data transceiver operatively linked to said electronic circuit, said data transceiver being for exchanging data between said electronic circuit and an external data exchange device, and
- 10 for
- ~~a cue receiver for~~ receiving a selectively emitted activation cue from a source external to said portable electronic device;
- a data conveyance switching element operatively linked to said electronic circuit, said switching element being in an activated state upon an activation cue having been received by
- 15 ~~said cue receiver~~ data transceiver, and being in an inactive state when no activation cue was received by ~~said cue receiver~~ data transceiver;

and

- power means for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command:

- if said switching element is in said activated state, a data exchange will be initiated through the instrumentality of said data transceiver for exchanging data between said electronic circuit and an external data exchange device;
- if said switching element is in said inactive state, data will be conveyed from said electronic
- 25 circuit to said user interface device for communicating information to the portable electronic device holder.

2. A portable electronic device as defined in claim 1,
wherein said user interface device is a display screen.

3. A portable electronic device as defined in claim 1,

wherein said data transceiver comprises a data transmitter, ~~and a data receiver distinct from said data transmitter, and a cue receiver distinct from said data receiver.~~

~~4.A portable electronic device as defined in claim 3,~~
~~wherein said cue receiver is said data receiver.~~

5.4. A portable electronic device as defined in claim 1,
 wherein said control device is a biometric parameter detector.

6.5. A portable electronic device as defined in claim 54,
 wherein said biometric parameter detector is a fingerprint scanner capable of obtaining a fingerprint scan, and whereby said control device is triggered when the fingerprint scan matches a fingerprint image pre-saved in said electronic circuit.

7.6. A portable electronic device as defined in claim 1,
 wherein said control device is a manually activated button, and whereby said control device is triggered when the button is pressed.

8.7. A portable electronic device as defined in claim 1,
 wherein said electronic circuit comprises said switching element.

9.8. A portable electronic device as defined in claim 87,
 wherein said electronic circuit comprises a microchip, and wherein said switching element is a series of instructions programmed onto said microchip.

10.9. A portable electronic device as defined in claim 1,
 wherein said switching element comprises a ~~decisional~~ logical circuit.

11.10. A data exchange system comprising :

- a data exchange device comprising a first electronic circuit, a first data transceiver and a cue emitter; and
- a portable electronic device, comprising:

- a second electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;
- a control device operatively linked to said second electronic circuit, with an invariable activation command being issued when said control device is selectively triggered;
- a user interface device operatively linked to said second electronic circuit;
- a second data transceiver operatively linked to said second electronic circuit;
- a data conveyance switching element operatively linked to said second electronic circuit, said switching element being in an activated state upon an activation cue having been received by said ~~cue receiver~~ second data transceiver, and being in an inactive state when no activation cue was received by said ~~cue receiver~~ second data transceiver;

and

- power means for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command:

- if said switching element is in its activated state, a data exchange will occur between said first data transceiver and said second data transceiver, thereby exchanging data between said data exchange device and said portable electronic device;
- if said switching element is in its inactive state, data is forwarded to said user interface device for communicating information to the portable electronic device holder.

12.11. A portable electronic device comprising:

- an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;
- a control device operatively linked to said electronic circuit, with an invariable activation command being issued when said control device is selectively triggered;
- first and second data conveyance functions programmed in said electronic circuit;
- a cue receiver for receiving a selectively emitted activation cue from a source external to said portable electronic device; and
- power means, for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command, said electronic circuit will accomplish said first data conveyance function if an

activation cue was received by said cue receiver and said second data conveyance function if no cue was received by said cue receiver.

13.12. A method for data exchange with a portable electronic device of the type comprising: an

electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output, a control device operatively linked to said circuit, a user interface device operatively linked to said circuit, communication ports operatively linked to said circuit, a switching element operatively linked to said electronic circuit and being in a default inactive state, and power means for providing power to said portable electronic device, said method comprising the steps of:

- awaiting for an activation cue to be received at a predetermined one of said communication ports;
- if an activation cue is received at one of said communication ports, changing the state of said switching element from its default inactive state to an activated state; and
- selectively triggering said control device to issue an invariable activation command, whereby said method will further comprise one of the two following steps:
 - if said switching element is in its activated state, initiating a data exchange with an external data exchange device through at least one of said communication ports; and
 - if said switching element is in its inactive state, conveying data from said electronic circuit to said user interface device for communicating information to the portable electronic device holder.

14.13. A method as defined in claim-~~13~~ 12,

wherein said activation cue is received at one of said communication ports distinct from another one of said communication ports used for data exchange with the external data exchange device.

15.14. A method as defined in claim-~~13~~ 12,

wherein the additional following step occurs after selectively triggering said control device if said switching element is in said activated state:

- conveying data from said electronic circuit to said user interface device for communicating information to the portable electronic device holder.

CLAIMS

1. A portable electronic device, comprising:

- an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;
- 5 - a control device operatively linked to said electronic circuit, with an invariable activation command being issued when said control device is selectively triggered;
- a user interface device operatively linked to said electronic circuit;
- a data transceiver operatively linked to said electronic circuit, said data transceiver being for exchanging data between said electronic circuit and an external data exchange device, and
10 for receiving a selectively emitted activation cue from a source external to said portable electronic device;
- a data conveyance switching element operatively linked to said electronic circuit, said switching element being in an activated state upon an activation cue having been received by said data transceiver, and being in an inactive state when no activation cue was received by
15 said data transceiver;

and

- power means for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command:

- 20 - if said switching element is in said activated state, a data exchange will be initiated through the instrumentality of said data transceiver for exchanging data between said electronic circuit and an external data exchange device;
- if said switching element is in said inactive state, data will be conveyed from said electronic circuit to said user interface device for communicating information to the portable electronic
25 device holder.

2. A portable electronic device as defined in claim 1,
wherein said user interface device is a display screen.

30 3. A portable electronic device as defined in claim 1,
wherein said data transceiver comprises a data transmitter, a data receiver distinct from said data transmitter, and a cue receiver distinct from said data receiver.

4. A portable electronic device as defined in claim 1,
wherein said control device is a biometric parameter detector.
- 5 5. A portable electronic device as defined in claim 4,
wherein said biometric parameter detector is a fingerprint scanner capable of obtaining a
fingerprint scan, and whereby said control device is triggered when the fingerprint scan matches
a fingerprint image pre-saved in said electronic circuit.
- 10 6. A portable electronic device as defined in claim 1,
wherein said control device is a manually activated button, and whereby said control device is
triggered when the button is pressed.
7. A portable electronic device as defined in claim 1,
15 wherein said electronic circuit comprises said switching element.
8. A portable electronic device as defined in claim 7,
wherein said electronic circuit comprises a microchip, and wherein said switching element is a
series of instructions programmed onto said microchip.
- 20 9. A portable electronic device as defined in claim 1,
wherein said switching element comprises a logical circuit.
10. A data exchange system comprising :
- 25 - a data exchange device comprising a first electronic circuit, a first data transceiver and a cue
emitter; and
- a portable electronic device, comprising:
- a second electronic circuit capable of storing data therein, capable of processing
data, and capable of data input and output;
 - 30 - a control device operatively linked to said second electronic circuit, with an
invariable activation command being issued when said control device is
selectively triggered;
 - a user interface device operatively linked to said second electronic circuit;

- a second data transceiver operatively linked to said second electronic circuit;
- a data conveyance switching element operatively linked to said second electronic circuit, said switching element being in an activated state upon an activation cue having been received by said second data transceiver, and being in an inactive state when no activation cue was received by said second data transceiver;

and

- power means for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command:

- if said switching element is in its activated state, a data exchange will occur between said first data transceiver and said second data transceiver, thereby exchanging data between said data exchange device and said portable electronic device;
- if said switching element is in its inactive state, data is forwarded to said user interface device for communicating information to the portable electronic device holder.

11. A portable electronic device comprising:

- an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;
- a control device operatively linked to said electronic circuit, with an invariable activation command being issued when said control device is selectively triggered;
- first and second data conveyance functions programmed in said electronic circuit;
- a cue receiver for receiving a selectively emitted activation cue from a source external to said portable electronic device; and
- power means, for providing power to said portable electronic device;

wherein upon said control device being selectively triggered to issue said invariable activation command, said electronic circuit will accomplish said first data conveyance function if an activation cue was received by said cue receiver and said second data conveyance function if no cue was received by said cue receiver.

12. A method for data exchange with a portable electronic device of the type comprising: an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output, a control device operatively linked to said circuit, a user interface device operatively linked to said circuit, communication ports operatively linked to said

circuit, a switching element operatively linked to said electronic circuit and being in a default inactive state, and power means for providing power to said portable electronic device, said method comprising the steps of :

- awaiting for an activation cue to be received at a predetermined one of said communication ports;
- if an activation cue is received at one of said communication ports, changing the state of said switching element from its default inactive state to an activated state; and
- selectively triggering said control device to issue an invariable activation command, whereby said method will further comprise one of the two following steps:
 - if said switching element is in its activated state, initiating a data exchange with an external data exchange device through at least one of said communication ports; and
 - if said switching element is in its inactive state, conveying data from said electronic circuit to said user interface device for communicating information to the portable electronic device holder.

13. A method as defined in claim 12,

wherein said activation cue is received at one of said communication ports distinct from another one of said communication ports used for data exchange with the external data exchange device.

14. A method as defined in claim 12,

wherein the additional following step occurs after selectively triggering said control device if said switching element is in said activated state:

- conveying data from said electronic circuit to said user interface device for communicating information to the portable electronic device holder.